Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

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Reviewed by: Ralph E. Gosney, DAQ

GENERAL INFORMATION:

Name:	Mallinckrodt Baker, Inc.
Address:	7001 Highway 68 Bypass Paris, KY 40361
Date application received:	1/15/2008
SIC Code/SIC description:	2819, Industrial Inorganic Chemicals, NEC (except activated carbon and charcoal, alumina, recovering sulfur from natural gas, and inorganic dyes)
Source ID:	21-017-00015
Agency Interest:	294
Activity:	APE20080001
Permit:	F-08-006

APPLICATION TYPE/PERMIT ACTIVITY:

[x] Initial issuance	[ ] General permit
[ ] Permit modification	[x] Conditional major
__Administrative	[ ] Title V
__Minor	[x] Synthetic minor
__Significant	[x] Operating
[ ] Permit renewal	[ ] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance [ ] Compliance schedule included
[x] Compliance certification signed

APPLICABLE REQUIREMENTS LIST:

[ ] NSR	[x] NSPS	[ ] SIP
[ ] PSD	[ ] NESHAPS	[ ] Other
[ ] Netted out of PSD/NSR	[ ] Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

[ ] Acid rain source
[ ] Source subject to 112(r)
[x] Source applied for federally enforceable emissions cap
[ ] Source provided terms for alternative operating scenarios
[ ] Source subject to a MACT standard
[ ] Source requested case-by-case 112(g) or (j) determination
[ ] Application proposes new control technology
[x] Certified by responsible official
[ ] Diagrams or drawings included
[ ] Confidential business information (CBI) submitted in application
[ ] Pollution Prevention Measures
[ ] Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)*	Potential (tpy)
PM	1.36	808.15
PM_{10}	1.36	< 90
SO_2	0.22	< 90
NOx	4.19	N/A
CO	0.86	N/A
VOC	40.46	< 90
Single HAPs	None	< 9
Source-wide Combined HAPs	None	< 22.5

* Kentucky Division for Air Quality's 2006 Emissions Inventory report.

SOURCE DESCRIPTION:

Mallinckrodt Baker, Inc. owns and operates a chemical purification and packaging facility located at 7001 Highway 68 Bypass, Paris, Kentucky. The source manufactures, packages, stores, and distributes multiple grades of solvents, acids, solutions, and bonded phase products. The significant emission units at the Paris facility include railcar and tank truck unloading, solvent and ether distillation, solvent and ether packaging, acid packaging, dry material packaging, two steam boilers, a fire-tube boiler, and fugitive emissions. Insignificant activities include various natural gas-fired space heaters, two small offset printing operations, solution blending and packaging, flammable solutions packaging, "hazard room" operations, FACSFlow™ mixing, acid storage tanks, a cooling tower, and various fuel oil and solution storage tanks as well as other operations.

The emissions from this source include: volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) from solvent/acid handling operations; particulate matter (PM/PM10) and particulate HAP emissions from dry material handling operations; particulate matter (PM/PM10), HAPs, carbon monoxide (CO), nitrogen oxide (NOx), VOCs, and sulfur dioxide (SO_2) from combustion units. All emissions from the combustion units are uncontrolled. PM/PM10 and particulate HAP emissions from dry material handling operations are controlled by either fabric filter baghouses or cartridge type dust collectors. The VOC and HAP emissions from the solvent/acid handling operation EP 12/15(--) (Automatic and Hand Filling Liquid Acids) are controlled by a packed-bed scrubber (Caustic Scrubber #1). The aqueous solution blending and packaging operation, which is listed as an insignificant activity in the permit, is also controlled by Caustic Scrubber #1. Additionally, a hydrofluoric acid storage tank is controlled by a venturi scrubber and a hydrochloric acid storage tank is controlled by a packed-bed scrubber (Caustic Scrubber #2). The hydrofluoric acid tank is listed as an insignificant activity in the permit.

An operating permit issued to Mallinckrodt Baker on June 17, 1983 (No.: O-83-110) is the most recent operating permit on record. Since that time, several other construction permits have been issued to this source, with the most recent being C-82-033 (Revision 2) issued by the Division on July 29, 1994. The 1983 operating permit; various construction permits; and other construction/operating permit applications submitted since 1994, including a source wide operating permit application of February 1996 that was resubmitted on May 9 2006 and January 14, 2008, need to be consolidated and updated to comply with current federal and State air regulations.

The potential to emit (as defined in 401 KAR 52:001, Section 1 (192)) of VOC and PM10 for this source are each greater than one hundred (100) tons per year. Additionally, the potential to emit of a single HAP and combined HAPs are greater than 10 and 25 tons per year, respectively; therefore, the source is a major source under 401 KAR 52:020, *Title V Permits*. The source has requested to take voluntary limits on the source-wide emissions of VOC, PM10, single HAPs, and combined HAPs to less than Title V major source thresholds. As such, the source will be issued a conditional major operating permit under 401 KAR 52:030, *Federally Enforceable Permits for Non-major Sources*. This is the initial conditional major permit for this source.

EMISSIONS AND OPERATING CAPS DESCRIPTIONS:
To preclude the applicability of 401 KAR 52:020, *Title V Permits*, the source-wide emissions shall not equal or exceed the following limits on a twelve (12) consecutive month basis:

(a) Particulate matter with a diameter of less than or equal to 10 microns (PM10) emissions: 90 tons per year;
(b) Volatile organic compound (VOC) emissions: 90 tons per year;
(c) Single hazardous air pollutant (HAP) emissions: 9.0 tons per year; and
(d) Combined hazardous air pollutant emissions: 22.5 tons per year.

This source is a chemical processing plant and it is one of the 28 listed source categories at 401 KAR 51:017, *Prevention of Significant Deterioration of Air Quality*. Therefore, compliance with the above specified permit limits shall also preclude this source from being a major stationary source and the requirements of 401 KAR 51:017, *Prevention of Significant Deterioration of Air Quality*, are not applicable to this source.

In order to make the conditional major/synthetic minor VOC and HAP emission limits practically enforceable, the permittee has voluntarily requested the following production limits:

(a) For the Solvent Packaging Area (EP 13/14(--)), the following operating limitations shall apply:

    (1) Dichloromethane packaging in the solvent packaging area shall not exceed 5,529,420 pounds per twelve (12) consecutive month period;
    (2) Packaging of total VOCs or total HAPs, other than dichloromethane, at the mobile side stations, 5-gallon pail filling station, or drum/tote stations in the solvent packaging area shall not exceed 30,850,000 pounds per twelve (12) consecutive month period; and
    (3) Packaging of total VOCs or total HAPs, other than dichloromethane, on the two (2) autofill stations in the solvent packaging area shall not exceed 22,212,000 pounds per twelve (12) consecutive month period.

(b) For the Ether/Solvent Packaging Area (EP 17(--)), the following operating limitations shall apply:

(1) Packaging of dichloromethane at the mobile side stations and drum filling station in the ether/solvent packaging area shall not exceed 1,105,884 pounds per twelve (12) consecutive month period; and
(2) Packaging of total VOCs or total HAPs, other than dichloromethane, at the mobile side stations and drum filling station in the ether/solvent packaging area shall not exceed 3,755,000 pounds per twelve (12) consecutive month period.

(c) For Stills #1, #2, and #3 (EP 50(--), EP 55(--), and EP 56(--)), the following operating limitations shall apply:

(1) At no time shall Still #1 perform more than 12 clean-up cycles after dichloromethane processing per twelve (12) consecutive month period;
(2) At no time shall Still #2 process any other HAP besides dichloromethane; and
(3) At no time shall Still #3 process dichloromethane.

The permittee shall continue to use particulate control devices at relevant emission points specified in the permit in order to comply with the respective unit emission limits, and the conditional major PM10 emission limit. Related enforceable monitoring, record keeping and reporting requirements are included in the permit.

Note: In order to allow for flexibility in using different liquid fuels in the indirect heat exchangers (as well as natural gas), the permittee has requested the following limitations to preclude the applicability of 401 KAR 52:020, *Title V Permits*:

(a) Sulfur content weight percentage for No. 2 fuel oil $\leq$ 0.5%;
(b) Sulfur content weight percentage for No. 4 fuel oil $\leq$ 1.0%;
(c) Sulfur content weight percentage for No. 6 fuel oil $\leq$ 1.2%; and
(d) For any combination of fuels, emissions of sulfur dioxide (SO_2) from the boilers shall not exceed 90.0 tons during any twelve (12) consecutive month period.

OPERATIONAL FLEXIBILITY:
None